WHAT IS CLAIMED IS:

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1. A polygon rendering device, comprising:

a polygon division section for generating, based on polygon data which specifies a polygon to be rendered, a plurality of partial polygon data each specifying one piece of partial polygons which are obtained by dividing the polygon; and

a partial polygon rendering section for performing a rendering process, and based on the partial polygon data generated by said polygon division section, generating image data which represents an image of the polygon, wherein

each of said partial polygons include a plurality of triangles which respectively include a vertex of said polygon, and

each of the triangles shares at least one edge with any one of the triangles included in the same partial polygon.

2. The polygon rendering device according to claim 1, wherein

said polygon data includes a set of coordinates for specifying said polygon,

an unwanted point elimination section for applying an elimination process to said polygon data is further comprised to generate new polygon data from which any unwanted set of coordinates is eliminated, and

said polygon division section generates said partial polygon data in accordance with the new polygon data which is obtained by the unwanted point elimination section.

3. The polygon rendering device according to claim 1, further comprising a concave polygon determination section for determining whether or not said polygon data specifies a concave polygon, wherein

said polygon division section generates said partial polygon data based on the polygon data which is determined as specifying the concave polygon by said polygon division section.

4. The polygon rendering device according to claim 1, wherein said partial polygon rendering section performs a perspective projection transformation process based on the partial polygon data generated by said polygon division section, and generates image data which represents the image of said polygon viewed from a predetermined viewpoint.

5. The polygon rendering device according to claim 1, wherein

said polygon data includes *n* sets of vertex coordinates *P1* to *Pn* of said polygon in such an order that the polygon can be rendered in one stroke in a forward direction,

said polygon division section

selects one of the vertex coordinates *P1* to *Pn* of said polygon data as a reference vertex *Pb* (*b*=1, 2, ..., *n*), and in said forward direction, selects a vertex *Pc* positioning adjacent to the reference vertex *Pb* and a vertex *P(c+1)* positioning adjacent to the vertex *Pc*, and a triangle △*Pb Pc P(c+1)* formed by the reference vertex Pb, and the vertexes *Pc* and *P(c+1)* carries, in and on, no other vertex *Pi* (*i* = 1, 2, ..., *n*, and *i*≠*b*, *i*≠*c*, *i*≠*c*+1) belonging to said polygon and not yet selected, and an angle ∠*Pb Pc P(c+1)* formed by the reference vertex *Pb*, and the vertexes *Pc* and *P(c+1)* is smaller than 180 degrees,

selects, in addition to said reference vertex *Pb* and said vertex *P(c+1)*, a vertex *P(c+2)* which positions adjacent to the vertex *P(c+1)* in said forward direction, and a triangle △ *Pb P(c+1) P(c+2)* formed by the reference vertex *Pb*, and the vertexes *P(c+1)* and *P(c+2)* carries no other vertex *Pj* (*j* = 1, 2, ..., *n*, and *j*≠*b*, *j*≠*c*, *j*≠*c*+1, *j*≠*c*+2) which belongs to said polygon and not yet selected, and an angle ∠*Pb P(c+1) P(c+2)* formed by the reference vertex *Pb*, and the vertexes *P(c+1)* and *P(c+2)* is smaller than 180 degrees, and

generates the partial polygon data specifying at least the partial polygon formed by said reference vertex *Pb*, and the vertexes *Pc*, *P(c+1)*, and *P(c+2)*.

6. The polygon rendering device according to claim 5,

wherein said polygon division section

sets, when the vertex *P(c+2)* selected thereby satisfies a condition that said triangle $\triangle$*Pb P(c+1) P(c+2)* carries, in and on, no other vertex *Pj*, and said angle $\angle$*Pb P(c+1) P(c+2)* is smaller than 180 degrees, said vertex *P(c+2)* as the vertex *P(c+1)*,

keeps selecting, until said condition is not satisfied any more, together with said reference vertex *Pb* and the newly-set vertex *P(c+1)*, a new vertex *P(c+2)* which positions adjacent to the newly set vertex *P(c+1)*, and

generates the partial polygon data which specifies the partial polygon formed by said reference vertex *Pb*, said vertexes *Pc* and *P(C+1)*, and at least one of the vertexes *P(c+2)*.

7. A polygon rendering method, comprising:

a polygon division step of generating, based on polygon data which specifies a polygon to be rendered, a plurality of partial polygon data each specifying one piece of partial polygons which are obtained by dividing the polygon; and

a partial polygon rendering step of performing a rendering process, and based on the partial polygon data generated in said polygon division step, generating image data which represents an image of the polygon, wherein

each of said partial polygons includes a plurality of triangles which respectively include a vertex of said polygon, and

each of the triangles shares at least one edge with any one of the triangles included in the same partial polygon.

8. The polygon rendering method according to claim 7, wherein

said polygon data includes *n* sets of vertex coordinates *P1* to *Pn* of said polygon in such an order that the polygon can be rendered in one stroke in a forward direction,

said polygon division step

includes a first selection step of selecting one of the vertex coordinates *P1* to *Pn* of said polygon data as a reference vertex *Pb* (*b*=1, 2, ..., *n*), and in said forward direction, selecting a vertex *Pc* positioning adjacent to the reference vertex *Pb* and a vertex *P(c+1)* positioning adjacent to the vertex *Pc*,

in said first selection step, a triangle $\triangle$*Pb Pc P(c+1)* formed by the reference vertex Pb, and the vertexes *Pc* and *P(c+1)* carries, in and on, no other vertex *Pi* (*i* = 1, 2, ..., *n*, and $i \neq b$, $i \neq c$, $i \neq c+1$) belonging to said polygon and not yet selected, and an angle $\angle$*Pb Pc P(c+1)* formed by the reference vertex *Pb*, and the vertexes *Pc* and *P(c+1)* is smaller than 180 degrees, and

includes a second selection step of selecting, in addition to said reference vertex *Pb* and said vertex *P(c+1)*, a vertex *P(c+2)* which positions adjacent to the vertex *P(c+1)* in said forward direction,

in said second selection step, a triangle $\triangle Pb\ P(c+1)\ P(c+2)$ formed by the reference vertex Pb, and the vertexes $P(c+1)$ and $P(c+2)$ carries no other vertex Pj (j = 1, 2, ..., n, and $j \neq b$, $j \neq c$, $j \neq c+1$, $j \neq c+2$) which belongs to said polygon and not yet selected, and an angle $\angle Pb\ P(c+1)\ P(c+2)$ formed by the reference vertex Pb, and the vertexes $P(c+1)$ and $P(c+2)$ is smaller than 180 degrees, and

said polygon division step generates the partial polygon data specifying at least the partial polygon formed by said reference vertex Pb, and the vertexes Pc, and $P(c+1)$ selected in said first selection step, and said vertex $P(c+2)$ selected in said second step.

9. The polygon rendering method according to claim 8, wherein

said polygon division step further includes a setting step of setting said vertex $P(c+2)$ to the vertex $P(c+1)$ when the vertex $P(c+2)$ selected in said second selection step satisfies a condition that said triangle $\triangle Pb\ P(c+1)\ P(c+2)$ carries, in and on, no other vertex Pj, and said angle $\angle Pb\ P(c+1)\ P(c+2)$ is smaller than 180 degrees,

said second selection step keeps selecting, until said condition is not satisfied any more, together with said reference vertex Pb selected in said first selection step, and said vertex $P(c+1)$ newly set in said setting step, a new vertex $P(c+2)$ which

positions adjacent to the *newly-set* vertex *P(c+1)*, and

said polygon division step generates the partial polygon data which specifies the partial polygon formed by said reference vertex *Pb*, and said vertexes *Pc* and *P(C+1)* selected in said first selection step, and the vertex *P(c+2)* selected in said second selection step.

10. A polygon rendering program, comprising:

a polygon division step of generating, based on polygon data which specifies a polygon to be rendered, a plurality of partial polygon data each specifying one piece of partial polygons which are obtained by dividing the polygon; and

a partial polygon rendering step of performing a rendering process, and based on the partial polygon data generated in said polygon division step, generating image data which represents an image of the polygon, wherein

each of said partial polygons includes a plurality of triangles which respectively include a vertex of said polygon, and

each of the triangles shares at least one edge with any one of the triangles included in the same partial polygon.

11. The polygon rendering program according to claim 10, wherein

said polygon data includes *n* sets of vertex coordinates

P1 to *Pn* of said polygon in such an order that the polygon can be rendered in one stroke in a forward direction,

said polygon division step

includes a first selection step of selecting one of the vertex coordinates *P1* to *Pn* of said polygon data as a reference vertex *Pb* (*b*=1, 2, ..., *n*), and in said forward direction, selecting a vertex *Pc* positioning adjacent to the reference vertex *Pb* and a vertex *P(c+1)* positioning adjacent to the vertex *Pc*,

in said first selection step, a triangle $\triangle Pb\ Pc\ P(c+1)$ formed by the reference vertex Pb, and the vertexes *Pc* and *P(c+1)* carries, in and on, no other vertex *Pi* (*i* = 1, 2, ..., *n*, and $i \neq b$, $i \neq c$, $i \neq c+1$) belonging to said polygon and not yet selected, and an angle $\angle Pb\ Pc\ P(c+1)$ formed by the reference vertex *Pb*, and the vertexes *Pc* and *P(c+1)* is smaller than 180 degrees, and

includes a second selection step of selecting, in addition to said reference vertex *Pb* and said vertex *P(c+1)*, a vertex *P(c+2)* which positions adjacent to the vertex *P(c+1)* in said forward direction,

in said second selection step, a triangle $\triangle Pb\ P(c+1)\ P(c+2)$ formed by the reference vertex *Pb*, and the vertexes *P(c+1)* and *P(c+2)* carries no other vertex *Pj* (*j* = 1, 2, ..., *n*, and $j \neq b$, $j \neq c$, $j \neq c+1$, $j \neq c+2$) which belongs to said polygon and not yet selected, and an angle $\angle Pb\ P(c+1)\ P(c+2)$ formed by the reference vertex *Pb*, and the vertexes *P(c+1)* and *P(c+2)* is smaller

than 180 degrees, and

said polygon division step generates the partial polygon data specifying at least the partial polygon formed by said reference vertex *Pb*, and the vertexes *Pc*, and *P(c+1)* selected in said first selection step, and said vertex *P(c+2)* selected in said second step.

12. The polygon rendering program according to claim 10, wherein

said polygon division step further includes a setting step of setting said vertex *P(c+2)* to the vertex *P(c+1)* when the vertex *P(c+2)* selected in said second selection step satisfies a condition that said triangle $\triangle Pb\ P(c+1)\ P(c+2)$ carries, in and on, no other vertex *Pj*, and said angle $\angle Pb\ P(c+1)\ P(c+2)$ is smaller than 180 degrees,

said second selection step keeps selecting, until said condition is not satisfied any more, together with said reference vertex *Pb* selected in said first selection step, and said vertex *P(c+1)* newly set in said second selection step, a new vertex *P(c+2)* which positions adjacent to the newly set vertex *P(c+1)*, and

said polygon division step generates the partial polygon data which specifies the partial polygon formed by said reference vertex *Pb*, and said vertexes *Pc* and *P(C+1)* selected in said first selection step, and the vertex *P(c+2)* selected in said second selection step.

13. The polygon rendering program according to claim 10, said polygon rendering program is recorded on a recording medium.